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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/535,753	SLIKKERVEER ET AL.
	Examiner	Art Unit
	LAUREN NGUYEN	2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 08 December 2008.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1,6-7, 18, 21-24, 27-29, 31 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) _____ is/are rejected.

7) Claim(s) 1,6-7, 18, 21-24, 27-29, 31 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application

6) Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/08/2008 has been entered.

Response to Amendment

2. Applicant's arguments filed on 12/08/2008 have been fully considered but they are not persuasive.

3. The applicant argues (see page 9) regarding the amended **claim 1** that both the light-conducting body 106 and the LCD 104 of the Hashimoto reference have a uniform thickness. The examiner respectfully disagrees. The amended claim 1 recite "the additional film has a first thickness near the edge, the first thickness being larger than a second thickness of the additional film away from the edge." Obviously, as shown in figure 6, Hashimoto teaches that the thickness along the vertical axis increases from the center to the edge of the film due to the curvature. In fact, the first thickness near the edge of the film is larger than the second thickness away from the edge. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the film as taught by Hashimoto et al. because such modification would provide sufficient brightness to the display device. The claim language therefore does not patentably distinguish over the applied reference[s], and the previous rejections are maintained.

Claim Objections

4. **Claim 27** is objected to because of the following informalities: **Claim 27** depends on claim 2, which was canceled. For examining purposes, the examiner assumes claim 27 depends on claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites “the additional film has a first thickness near the edge, the first thickness being larger than a second thickness of the additional film away from the edge.” It is not clear to the examiner what the applicant meant by claiming the first thickness and the second thickness. Applicant is required to clarify what is being claimed. Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

a. A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. **Claims 1, 6-7, 18-19, 22-24, 27** are rejected under 35 U.S.C. 102(b) as being anticipated by **Masahide et al. (JP 2002-014359)**.

9. Regarding **claim 1, Masahide** (figures 11-12) discloses a method of manufacturing a curved flat panel display device, comprising the act of:

- providing two films including a first non-precurved film and a second non-precurved film (P1 and P2);
- pre-tensioning the second non-precurved film by a force (using pump P or the stage 41) to form a pre-tensioned surface (P1);
- adhering the first non-precurved film (P2) to the pre-tensioned surface; and
- releasing the force to contract the pre-tensioned surface and form a curved surface of the curved flat panel display device (In order to use the LCD device or perform the next manufacturing step (stress relief heat treatment, figure 7, see at least paragraph 0197), the exhaust air pump P or the stage 41 has to be taken out of the curved LCD after its formation. Therefore, the force is released);
- wherein one of said two films is a display layer exhibiting display functionality (P1 or P2, see at least paragraph 0180) and another of said two films is an additional film; said additional film is arranged substantially along an edge of the display layer (P1 and P2, figure 12); and
- the additional film has a first thickness near the edge, the first thickness being larger than a second thickness of the additional film away from the edge (the thickness along the vertical axis increases from the center to the edge of the film due to the curvature, or the first thickness near the edge of the film is larger than the second thickness away from the edge).

10. Regarding **claim 6, Masahide** (figures 11-12) discloses said additional film is arranged to be adhered to one of an intended I inner or outer side of the curved flat panel display (P1, P2).

11. Regarding **claim 7, Masahide** (figures 11-12) discloses said adhering of the additional film to the display film is done by means of laminating (see at least paragraph 0192).

12. Regarding **claim 18, Masahide** (figures 11-12) discloses a method of manufacturing a curved flat panel display device, comprising the step of: providing a first film (P1), applying a force to the first film to form a pre-tensioned surface (using pump P or the stage 41) to form a pre-tensioned surface (P2); adhering the second film (P2) to the pre-tensioned surface of the first film (P1); and releasing the force to contract the pre-tensioned surface and form a curved surface of the curved flat panel display device (In order to use the LCD device or perform the next manufacturing step (stress relief heat treatment, figure 7, see at least paragraph 0197), the exhaust air pump P or the stage 41 has to be taken out of the curved LCD after its formation. Therefore, the force is released).

13. Regarding **claim 22, Masahide** (figures 11-12) discloses the step of applying the force comprises the step of applying a bending force to bend the second film to a position for the adhering step to adhere the second film to the surface of the first film (see at least paragraph 0193).

14. Regarding **claim 23, Masahide** (figures 11-12) discloses the additional film is arranged to be adhered to one of an intended inner or outer side of the curvature of the curved flat panel display device (P1 and P2).

15. Regarding **claim 24, Masahide** (figures 11-12) discloses said adhering of the additional film to the display film is done by means of laminating (N, see at least paragraph 0192).

16. Regarding **claim 27, Masahide** (figures 11-12) discloses a thickness of said additional film is selected to shift a plane of substantially zero tensile or compressive stress of the curved flat panel display device upon bending of the curved flat panel display device to a desired plane.

17. **Claims 1, 6-7, 18-19, 21, 23-24, 27-29, 32** are rejected under 35 U.S.C. 102(b) as being anticipated by **Oshikawa (US 5,273,475)**.

18. Regarding **claim 1, Oshikawa** (figures 1-5) discloses a method of manufacturing a curved flat panel display device, comprising the act of:

- providing two films including a first non-precurved film and a second non-precurved film (20 and 30);
- pre-tensioning the second non-precurved film by a force to form a pre-tensioned surface (20; see at least column 2, lines 45-68 and column 3, lines 1-25);
- adhering the first non-precurved film (30) to the pre-tensioned surface; and
- releasing the force to contract the pre-tensioned surface and form a curved surface of the curved flat panel display device (20; see at least column 2, lines 45-68 and column 3, lines 1-25)
- wherein one of said two films is a display layer exhibiting display functionality (20 or 30) and another of said two films is an additional film said additional film is arranged substantially along an edge of the display layer (20 or 30); and
- the additional film has a first thickness near the edge, the first thickness being larger than a second thickness of the additional film away from the edge (the thickness along the vertical axis increases from the center to the edge of the film due to the curvature, or the first thickness near the edge of the film is larger than the second thickness away from the edge).

19. Regarding **claim 6, Oshikawa** (figures 1-5) discloses said additional film is arranged to be adhered to one of an intended inner or outer side of the curved flat panel display (20 or 30).

20. Regarding **claim 7, Oshikawa** (figures 1-5) discloses said adhering of the additional film to the display film is done by means of laminating (see at least column 2, lines 45-68 and column 3, lines 1-25).

21. Regarding **claim 18, Oshikawa** (figures 1-5) discloses a method of manufacturing a curved flat panel display device, comprising the step of: providing a first film (20), applying a force to the first film to form a pre-tensioned surface to form a pre-tensioned surface (20; see at least column 2, lines 45-68 and column 3, lines 1-25); adhering the second film (30) to the pre-tensioned surface of the first film (20); and releasing the force to contract the pre-tensioned surface and form a curved surface of the curved flat panel display device (see at least column 2, lines 45-68 and column 3, lines 1-25).

22. Regarding **claim 21, Oshikawa** (figures 1-5) discloses the step of applying the force comprises the step of uni-axially stretching the first film (20 and 30; see at least column 2, lines 45-68 and column 3, lines 1-25).

23. Regarding **claim 23, Oshikawa** (figures 1-5) discloses the additional film is arranged to be adhered to one of an intended inner or outer side of the curved flat panel display (20 or 30).

24. Regarding **claim 24, Oshikawa** (figures 1-5) discloses said adhering of the additional film to the display film is done by means of laminating (see at least column 2, lines 45-68 and column 3, lines 1-25).

25. Regarding **claim 27, Oshikawa** (figures 1-5) discloses a thickness of said additional film is selected to shift a plane of substantially zero tensile or compressive stress of the curved flat panel display device upon bending of the curved flat panel display device to a desired plane.

26. Regarding **claim 28, Oshikawa** (figures 1-5) discloses a method of manufacturing a curved flat panel display device, comprising the act of:

- providing two films including a first non-precurved film and a second non-precurved film (20 and 30);

- pre-tensioning the first non-precurved film by a force to form a stretched film (20; see at least column 2, lines 45-68 and column 3, lines 1-25);
- adhering together the stretched film and the second non-precurved film so that the two films are held in a curved shape by the adhering act (20 and 30; see at least column 2, lines 45-68 and column 3, lines 1-25); and
- releasing the force to contract the stretched film and form a curved surface of the curved flat panel display device (end the thermal expansion process);
- the stretched film is arranged substantially along an edge of non-precurved second film (20 and 30) and has a first thickness near the edge, the first thickness being larger than a second thickness of the stretched film along the edge (the thickness along the vertical axis increases from the center to the edge of the film due to the curvature, or the first thickness near the edge of the film is larger than the second thickness away from the edge).

27. Regarding **claim 29, Oshikawa** (figures 1-5) discloses the act of pre-tensioning the non-precurved first film comprises the act of uni-axially stretching the non-precurved first film (20 and 30; see at least column 2, lines 45-68 and column 3, lines 1-25).

28. Regarding **claim 32, Oshikawa** (figures 1-5) discloses a thickness of said additional film is selected to shift a plane of substantially zero tensile or compressive stress of the curved flat panel display device upon bending of the curved flat panel display device to a desired plane.

Claim Rejections - 35 USC § 103

29. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

30. **Claims 1, 6-7, 18-19, 22-24, 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Masahide et al. (JP 2002-014359)** in view of **Hashimoto et al. (US 2002/0003711)**.

31. Regarding **claim 1, Masahide** (figures 11-12) discloses a method of manufacturing a curved flat panel display device, comprising the act of:

- providing two films including a first non-precurved film and a second non-precurved film (P1 and P2);
- pre-tensioning the second non-precurved film by a force (using pump P or the stage 41) to form a pre-tensioned surface (P1);
- adhering the first non-precurved film (P2) to the pre-tensioned surface; and
- releasing the force to contract the pre-tensioned surface and form a curved surface of the curved flat panel display device (In order to use the LCD device or perform the next manufacturing step (stress relief heat treatment, figure 7, see at least paragraph 0197), the exhaust air pump P or the stage 41 has to be taken out of the curved LCD after its formation. Therefore, the force is released);
- wherein one of said two films is a display layer exhibiting display functionality (P1 or P2, see at least paragraph 0180) and another of said two films is an additional film; said additional film is arranged substantially along an edge of the display layer (P1 and P2, figure 12); and

32. **Masahide et al.** does not disclose the remaining limitations of **claim 1. Hashimoto et al.** (in at least paragraphs 0054 and 0059, figures 5-6) teaches the film has a first thickness near the edge, the first thickness being larger than a second thickness of the stretched film away from the

edge (figures 6A-6B; Hashimoto teaches that the thickness along the vertical axis increases from the center to the edge of the film due to the curvature. In fact, the first thickness near the edge of the film is larger than the second thickness away from the edge). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the film as taught by **Oshikawa** because such modification would provide sufficient brightness to the display device.

33. Regarding **claim 6, Masahide** (figures 11-12) discloses said additional film is arranged to be adhered to one of an intended I inner or outer side of the curved flat panel display (P1, P2).

34. Regarding **claim 7, Masahide** (figures 11-12) discloses said adhering of the additional film to the display film is done by means of laminating (see at least paragraph 0192).

35. Regarding **claim 18, Masahide** (figures 11-12) discloses a method of manufacturing a curved flat panel display device, comprising the step of: providing a first film (P1), applying a force to the first film to form a pre-tensioned surface (using pump P or the stage 41) to form a pre-tensioned surface (P2); adhering the second film (P2) to the pre-tensioned surface of the first film (P1); and releasing the force to contract the pre-tensioned surface and form a curved surface of the curved flat panel display device (In order to use the LCD device or perform the next manufacturing step (stress relief heat treatment, figure 7, see at least paragraph 0197), the exhaust air pump P or the stage 41 has to be taken out of the curved LCD after its formation. Therefore, the force is released).

36. Regarding **claim 22, Masahide** (figures 11-12) discloses the step of applying the force comprises the step of applying a bending force to bend the second film to a position for the adhering step to adhere the second film to the surface of the first film (see at least paragraph 0193).

37. Regarding **claim 23, Masahide** (figures 11-12) discloses the additional film is arranged to be adhered to one of an intended inner or outer side of the curvature of the curved flat panel display device (P1 and P2).

38. Regarding **claim 24, Masahide** (figures 11-12) discloses said adhering of the additional film to the display film is done by means of laminating (N, see at least paragraph 0192).

39. Regarding **claim 27, Hashimoto et al.** (figures 5-6) teaches a thickness of said additional film is selected to shift a plane of substantially zero tensile or compressive stress of the curved flat panel display device upon bending of the curved flat panel display device to a desired plane.

40. **Claims 1, 6-7, 18-19, 21, 23-24, 27-29, 32** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Oshikawa (US 5,273,475)** in view of **Hashimoto et al. (US 2002/0003711)**.

41. Regarding **claim 1, Oshikawa** (figures 1-5) discloses a method of manufacturing a curved flat panel display device, comprising the act of:

- providing two films including a first non-precurved film and a second non-precurved film (20 and 30);
- pre-tensioning the second non-precurved film by a force to form a pre-tensioned surface (20; see at least column 2, lines 45-68 and column 3, lines 1-25);
- adhering the first non-precurved film (30) to the pre-tensioned surface; and
- releasing the force to contract the pre-tensioned surface and form a curved surface of the curved flat panel display device (20; see at least column 2, lines 45-68 and column 3, lines 1-25)

- wherein one of said two films is a display layer exhibiting display functionality (20 or 30) and another of said two films is an additional film said additional film is arranged substantially along an edge of the display layer (20 or 30); and

42. **Oshikawa** does not disclose the remaining limitations of **claim 1**. **Hashimoto et al.** (in at least paragraphs 0054 and 0059, figures 5-6) teaches the film has a first thickness near the edge, the first thickness being larger than a second thickness of the stretched film away from the edge (figures 6A-6B; Hashimoto teaches that the thickness along the vertical axis increases from the center to the edge of the film due to the curvature. In fact, the first thickness near the edge of the film is larger than the second thickness away from the edge). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the film as taught by **Hashimoto** because such modification would provide sufficient brightness to the display device.

43. Regarding **claim 6**, **Oshikawa** (figures 1-5) discloses said additional film is arranged to be adhered to one of an intended inner or outer side of the curved flat panel display (20 or 30).

44. Regarding **claim 7**, **Oshikawa** (figures 1-5) discloses said adhering of the additional film to the display film is done by means of laminating (see at least column 2, lines 45-68 and column 3, lines 1-25).

45. Regarding **claim 18**, **Oshikawa** (figures 1-5) discloses a method of manufacturing a curved flat panel display device, comprising the step of: providing a first film (20), applying a force to the first film to form a pre-tensioned surface to form a pre-tensioned surface (20; see at least column 2, lines 45-68 and column 3, lines 1-25); adhering the second film (30) to the pre-tensioned surface of the first film (20); and releasing the force to contract the pre-tensioned surface and form a curved surface of the curved flat panel display device (see at least column 2, lines 45-68 and column 3, lines 1-25).

46. Regarding **claim 21, Oshikawa** (figures 1-5) discloses the step of applying the force comprises the step of uni-axially stretching the first film (20 and 30; see at least column 2, lines 45-68 and column 3, lines 1-25).

47. Regarding **claim 23, Oshikawa** (figures 1-5) discloses the additional film is arranged to be adhered to one of an intended inner or outer side of the curved flat panel display (20 or 30).

48. Regarding **claim 24, Oshikawa** (figures 1-5) discloses said adhering of the additional film to the display film is done by means of laminating (see at least column 2, lines 45-68 and column 3, lines 1-25).

49. Regarding **claim 27, Hashimoto et al.** (figures 5-6) teaches a thickness of said additional film is selected to shift a plane of substantially zero tensile or compressive stress of the curved flat panel display device upon bending of the curved flat panel display device to a desired plane.

50. Regarding **claim 28, Oshikawa** (figures 1-5) discloses a method of manufacturing a curved flat panel display device, comprising the act of:

- providing two films including a first non-precurved film and a second non-precurved film (20 and 30);
- pre-tensioning the first non-precurved film by a force to form a stretched film (20; see at least column 2, lines 45-68 and column 3, lines 1-25);
- adhering together the stretched film and the second non-precurved film so that the two films are held in a curved shape by the adhering act (20 and 30; see at least column 2, lines 45-68 and column 3, lines 1-25); and
- releasing the force to contract the stretched film and form a curved surface of the curved flat panel display device (end the thermal expansion process);

- the stretched film is arranged substantially along an edge of non-precurved second film (20 and 30).

51. **Oshikawa** does not disclose the remaining limitations of **claim 28**. **Hashimoto et al.** (in at least paragraphs 0054 and 0059, figures 5-6) teaches the film has a first thickness near the edge, the first thickness being larger than a second thickness of the stretched film away from the edge (figures 6A-6B; Hashimoto teaches that the thickness along the vertical axis increases from the center to the edge of the film due to the curvature. In fact, the first thickness near the edge of the film is larger than the second thickness away from the edge). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the film as taught by **Hashimoto** because such modification would provide sufficient brightness to the display device.

52. Regarding **claim 29**, **Oshikawa** (figures 1-5) discloses the act of pre-tensioning the non-precurved first film comprises the act of uni-axially stretching the non-precurved first film (20 and 30; see at least column 2, lines 45-68 and column 3, lines 1-25).

53. Regarding **claim 32**, **Hashimoto et al.** (figures 5-6) teaches a thickness of said additional film is selected to shift a plane of substantially zero tensile or compressive stress of the curved flat panel display device upon bending of the curved flat panel display device to a desired plane.

54. **Claim 21** is ejected under 35 U.S.C. 103(a) as being unpatentable over **Masahide et al.** (or **Masahide et al. as modified by Hashimoto et al.**) in view of **Yamamoto et al. (US 4,592,623)**.

55. With respect to **claim 21** **Masahide et al.** (or **Masahide et al. as modified by Hashimoto et al.**) discloses the limitations as shown in the rejection of **claim 18** above. However, **Masahide et al.** (or **Masahide et al. as modified by Hashimoto et al.**) fails to teach the limitations of **claim 21**.

Yamamoto et al. (in at least column 5, lines 31-34) teaches the step of applying the force comprises the step of uni-axially stretching the first film. Therefore, it would have been obvious to

one of ordinary skill in the art at the time of the invention to modify the method of manufacturing a curve flat panel display device of **Masahide et al.** (or **Masahide et al. as modified by Hashimoto et al.**) with the uniaxially stretch method of **Yamamoto et al.** because such modification would impart the corrosion resistance against chemicals to the films.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lauren Nguyen whose telephone number is (571) 270-1428. The examiner can normally be reached on M-F, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. N./
Examiner, Art Unit 2871
/David Nelms/

Supervisory Patent Examiner, Art Unit 2871